

AMENDMENTS TO THE SPECIFICATION

Please amend the Title of the Invention as follows:

~~DATA DISTRIBUTION SYSTEM AND DEVICES USED THEREIN~~ BROADCAST DATA RECEIVING DEVICE AND METHOD FOR RECEIVING A PLURALITY OF MULTIMEDIA DATA

Please amend the paragraph beginning on line 6 of page 6 as follows:

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A first aspect is directed to a data broadcast system comprising a data broadcasting device provided in a broadcasting station which broadcasts multimedia data and a receiving terminal device receiving the multimedia data broadcast from the data broadcasting ~~device,~~ device. A data broadcasting device in accordance with the first aspect of the present invention may comprise: a data analyzing portion for analyzing the contents of the multimedia data and generating output attribute data corresponding to the multimedia data, and a data transmitting portion for broadcasting the multimedia data together with the output attribute data. A receiving terminal device in accordance with the first aspect of the present invention may comprise: a receiving portion for receiving the multimedia data and the output attribute data which are broadcast, a data managing portion for managing and storing the multimedia data and the output attribute data which are received, and a data output portion for outputting the multimedia data together with its attribute information by referring to the output attribute data.

~~wherein the data broadcasting device comprises;~~

~~a data analyzing portion for analyzing the contents of the multimedia data and generating output attribute data corresponding to the multimedia data, and~~

~~a data transmitting portion for broadcasting the multimedia data together with the output attribute data, and~~

~~the receiving terminal device comprises;~~

~~a receiving portion for receiving the multimedia data and the output attribute data which are broadcast,~~

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~~a data managing portion for managing and storing the multimedia data and the output attribute data which are received, and~~

~~a data output portion for outputting the multimedia data together with its attribute information by referring to the output attribute data.~~

Please amend the paragraph beginning on line 6 of page 7 as follows:

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According to a second aspect, in the data broadcast system of the first aspect, the data broadcasting device further comprises a portion for embedding the output attribute data generated by the data analyzing portion in the multimedia data, and the data transmitting portion broadcasts the multimedia data in which the output attribute data is embedded.

~~the data broadcasting device further comprises a portion for embedding the output attribute data generated by the data analyzing portion in the multimedia data, and~~

~~the data transmitting portion broadcasts the multimedia data in which the output attribute data is embedded.~~

Please amend the paragraph beginning on line 24 of page 7 as follows:

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According to a third aspect, in the data broadcast system of the second aspect, the receiving terminal device further comprises a data extracting portion for extracting from the received multimedia data the output attribute data embedded therein and outputting the output attribute data to the data managing portion, and the data managing portion manages the output attribute data extracted by the data extracting portion separately from the corresponding multimedia data.

~~the receiving terminal device further comprises a data extracting portion for extracting from the received multimedia data the output attribute data embedded therein and outputting the output attribute data to the data managing portion, and~~
~~the data managing portion manages the output attribute data extracted by the data extracting portion separately from the corresponding multimedia data.~~

Please amend the paragraph beginning on line 18 of page 8 as follows:

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According to a fourth aspect, in the data broadcast system of the first aspect, the receiving terminal device further comprises a data analyzing portion for analyzing the contents of the received multimedia data and newly generating the output attribute data about the multimedia data.

~~the receiving terminal device further comprises a data analyzing portion for analyzing the contents of the received multimedia data and newly generating the output attribute data about the multimedia data.~~

Please amend the paragraph beginning on line 4 of page 9 as follows:

According to a fifth aspect, in the data broadcast system of the first aspect, the data managing portion further manages a state of reception about data linked to the multimedia data, and the data output portion outputs a state of data linked to the multimedia data by referring to the state of reception as well as the output attribute data.

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~~the data managing portion further manages a state of reception about data linked to the multimedia data, and~~

~~the data output portion outputs a state of data linked to the multimedia data by referring to the state of reception as well as the output attribute data.~~

Please amend the paragraph beginning on line 17 of page 9 as follows:

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According to a sixth aspect, in the data broadcast system of the first aspect, when the multimedia data is data in an HTML format, the output attribute data comprises information about data linked to the multimedia data, concerning at least one of its file name, the number of images contained therein, its data size, and the number of data pieces further linked thereto.

~~when the multimedia data is data in an HTML format,~~

~~the output attribute data comprises information about data linked to the multimedia data, concerning at least one of its file name, the number of images contained therein, its data size, and the number of data pieces further linked thereto.~~

Please amend the paragraph beginning on line 24 of page 9 as follows:

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According to a seventh aspect, in the data broadcast system of the first aspect, when the multimedia data is data in a JPEG format, the output attribute data comprises information about at least one of data type of the multimedia data (a natural painting or a line drawing) and a recommended screen size suited to display of the multimedia data.

~~when the multimedia data is data in a JPEG format,
the output attribute data comprises information about at least one of data type of the multimedia data (a natural painting or a line drawing) and a recommended screen size suited to display of the multimedia data.~~

Please amend the paragraph beginning on line 15 of page 10 as follows:

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An eighth aspect is directed to a data broadcasting device provided in a broadcasting station which broadcasts multimedia data, the data. A data broadcasting device comprising: in accordance with the eighth aspect of the present invention may comprise: a data analyzing portion for analyzing the contents of the multimedia data and generating output attribute data about the multimedia data, and a data transmitting portion for broadcasting the multimedia data together with a corresponding piece of the output attribute data.

~~a data analyzing portion for analyzing the contents of the multimedia data and generating output attribute data about the multimedia data, and~~

~~a data transmitting portion for broadcasting the multimedia data together with a corresponding piece of the output attribute data.~~

Please amend the paragraph beginning on line 23 of page 10 as follows:

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According to a ninth aspect, the data broadcasting device of the eighth aspect further comprises a portion for embedding the output attribute data generated by the data analyzing portion in the multimedia data, and the data transmitting portion broadcasts the multimedia data in which the output attribute data is embedded.

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10 and the data transmitting portion broadcasts the multimedia data in which the output attribute data is embedded.

Please amend the paragraph beginning on line 4 of page 11 as follows:

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1/ According to a tenth aspect, in the data broadcasting device of the eighth aspect, when the multimedia data is data in an HTML format, the output attribute data comprises information about data linked to the multimedia data, concerning at least one of its file name, the number of images contained therein, its data size, and the number of data pieces further linked thereto.

when the multimedia data is data in an HTML format,
the output attribute data comprises information about data linked to the multimedia data, concerning at least one of its file name, the number of images contained therein, its data size, and the number of data pieces further linked thereto.

Please amend the paragraph beginning on line 11 of page 11 as follows:

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12 According to an eleventh aspect, in the data broadcasting device of the eighth aspect, when the multimedia data is data in a JPEG format, the output attribute data comprises information about at least one of data type of the multimedia data (a natural painting or a line drawing) and a recommended screen size suited to display of the multimedia data.

when the multimedia data is data in a JPEG format,
the output attribute data comprises information about at least one of data type of the multimedia data (a natural painting or a line drawing) and a recommended screen size suited to display of the multimedia data.

Please amend the paragraph beginning on line 18 of page 11 as follows:

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13 A twelfth aspect is directed to a receiving terminal device which receives multimedia data broadcast together with output attribute data, the data. A data broadcasting device comprising: in accordance with the twelfth aspect of the present invention may comprise: a receiving portion for receiving the multimedia data and the output attribute data which are broadcast, a data managing

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13 portion for managing and storing the multimedia data and the output attribute data which are received, and a data output portion for outputting the multimedia data together with its attribute information by referring to the output attribute data.

~~a receiving portion for receiving the multimedia data and the output attribute data which are broadcast,~~

~~a data managing portion for managing and storing the multimedia data and the output attribute data which are received, and~~

~~a data output portion for outputting the multimedia data together with its attribute information by referring to the output attribute data.~~

Please amend the paragraph beginning on line 3 of page 12 as follows:

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14 According to a thirteenth aspect, the receiving terminal device of the twelfth aspect further comprises a data extracting portion for, when the output attribute data is embedded in the multimedia data, extracting from the received multimedia data the output attribute data embedded therein and outputting the output attribute data to the data managing portion, and the data managing portion manages the output attribute data extracted by the data extracting portion separately from the corresponding multimedia data.

~~the data managing portion manages the output attribute data extracted by the data extracting portion separately from the corresponding multimedia data.~~

Please amend the paragraph beginning on line 16 of page 12 as follows:

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15 According to a fifteenth aspect, in the receiving terminal device of the twelfth aspect, the data managing portion further manages a state of reception about data linked to the multimedia data, and the data output portion outputs a state of data linked to the multimedia data by referring to the state of reception as well as the output attribute data.

~~the data managing portion further manages a state of reception about data linked to the multimedia data, and~~

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~~the data output portion outputs a state of data linked to the multimedia data by referring to the state of reception as well as the output attribute data.~~

Please amend the paragraph beginning on line 23 of page 12 as follows:

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A sixteenth aspect is directed to a receiving terminal device which receives broadcast multimedia data, comprising: a receiving portion for receiving the broadcast multimedia data, a data analyzing portion for analyzing the contents of the received multimedia data and generating output attribute data about the multimedia data, a data managing portion for managing and storing the received multimedia data and the generated output attribute data, and a data output portion for outputting the multimedia data together with its attribute information by referring to the output attribute data.

~~a receiving portion for receiving the broadcast multimedia data;~~
~~a data analyzing portion for analyzing the contents of the received multimedia data and generating output attribute data about the multimedia data;~~
~~a data managing portion for managing and storing the received multimedia data and the generated output attribute data; and~~
~~a data output portion for outputting the multimedia data together with its attribute information by referring to the output attribute data.~~

Please amend the paragraph beginning on line 24 of page 13 as follows:

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A seventeenth aspect is directed to a data communication system comprising a data communication device for transmitting multimedia data in a JPEG format and a receiving terminal device receiving the multimedia data transmitted from the data communication ~~device; device.~~ A data communication device in accordance with a seventeenth aspect of the present invention may comprise: a data analyzing portion for analyzing the contents of the multimedia data and generating output attribute data about the multimedia data, and a data transmitting portion for transmitting the multimedia data together with a corresponding piece of the output attribute data. A receiving terminal device in accordance with a seventeenth aspect of the present invention may comprise: a

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receiving portion for receiving the multimedia data and the output attribute data which are transmitted, a data managing portion for managing and storing the multimedia data and the output attribute data which are received, and a data output portion which determines a method of displaying the multimedia data by referring to the output attribute data.

wherein the data communication device comprises;
a data analyzing portion for analyzing the contents of the multimedia data and generating output attribute data about the multimedia data, and
a data transmitting portion for transmitting the multimedia data together with a corresponding piece of the output attribute data;
and the receiving terminal device comprises;
a receiving portion for receiving the multimedia data and the output attribute data which are transmitted;
a data managing portion for managing and storing the multimedia data and the output attribute data which are received, and
a data output portion which determines a method of displaying the multimedia data by referring to the output attribute data.

Please amend the paragraph beginning on line 23 of page 14 as follows:

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According to an eighteenth aspect, in the data communication system of the seventeenth aspect, the data communication device further comprises a portion for embedding the output attribute data generated by the data analyzing portion in the multimedia data, and the data transmitting portion transmits the multimedia data in which the output attribute data is embedded.

the data communication device further comprises a portion for embedding the output attribute data generated by the data analyzing portion in the multimedia data, and
the data transmitting portion transmits the multimedia data in which the output attribute data is embedded.

Please amend the paragraph beginning on line 16 of page 15 as follows:

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According to a nineteenth aspect, in the data communication system of the eighteenth aspect, the receiving terminal device further comprises a data extracting portion for extracting from the received multimedia data the output attribute data embedded therein and outputting the output attribute data to the data managing portion, and the data managing portion manages the output attribute data extracted by the data extracting portion separately from the corresponding multimedia data.

~~the receiving terminal device further comprises a data extracting portion for extracting from the received multimedia data the output attribute data embedded therein and outputting the output attribute data to the data managing portion, and~~

~~the data managing portion manages the output attribute data extracted by the data extracting portion separately from the corresponding multimedia data.~~

Please amend the paragraph beginning on line 10 of page 16 as follows:

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According to a twentieth aspect, in the data communication system of the seventeenth aspect, the data analyzing portion generates the output attribute data showing data type of the multimedia data (a natural painting or a line drawing), and the data output portion determines whether or not to apply dithering to the multimedia data when displaying the multimedia data on the basis of the data type.

~~the data analyzing portion generates the output attribute data showing data type of the multimedia data (a natural painting or a line drawing), and~~

~~the data output portion determines whether or not to apply dithering to the multimedia data when displaying the multimedia data on the basis of the data type.~~

Please amend the paragraph beginning on line 18 of page 16 as follows:

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According to a twenty-first aspect, in the data communication system of the seventeenth aspect, the data analyzing portion generates the output attribute data showing a recommended screen size suited to display of the multimedia data, and the data output portion determines whether or not

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to apply dithering to the multimedia data when displaying the multimedia data on the basis of a result of comparison between the recommended screen size and the size of a screen in which the multimedia data is actually displayed.

~~the data analyzing portion generates the output attribute data showing a recommended screen size suited to display of the multimedia data; and~~

~~the data output portion determines whether or not to apply dithering to the multimedia data when displaying the multimedia data on the basis of a result of comparison between the recommended screen size and the size of a screen in which the multimedia data is actually displayed.~~

Please amend the paragraph beginning on line 8 of page 17 as follows:

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A twenty-second aspect is directed to a data communication device which makes communications of multimedia data in a JPEG format, the format. A data communication device ~~comprising:~~ in accordance with the twenty-second aspect of the present invention may comprise: a data analyzing portion for analyzing the contents of the multimedia data to generate output attribute data comprising information about at least one of data type of the multimedia data (a natural painting or a line drawing) and a recommended screen size suited to display of the multimedia data; and a data transmitting portion for transmitting the multimedia data together with the corresponding output attribute data.

~~a data analyzing portion for analyzing the contents of the multimedia data to generate output attribute data comprising information about at least one of data type of the multimedia data (a natural painting or a line drawing) and a recommended screen size suited to display of the multimedia data; and~~

~~a data transmitting portion for transmitting the multimedia data together with the corresponding output attribute data.~~

Please amend the paragraph beginning on line 18 of page 17 as follows:

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According to a twenty-third aspect, the data communication device of the twenty-second aspect further comprises a portion for embedding the output attribute data generated by the data

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analyzing portion in the multimedia data, and the data transmitting portion transmits the multimedia data in which the output attribute data is embedded.

~~and the data transmitting portion transmits the multimedia data in which the output attribute data is embedded.~~

Please amend the paragraph beginning on line 24 of page 17 as follows:

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A twenty-fourth aspect is directed to a receiving terminal device which receives multimedia data in a JPEG format which is transmitted together with output attribute data, the output attribute data comprising information about at least one of data type of the multimedia data (a natural painting or a line drawing) and a recommended screen size suited to display of the multimedia data, ~~the data.~~ A receiving terminal device comprising: in accordance with the twenty-fourth aspect of the present invention may comprise: a receiving portion for receiving the multimedia data and the output attribute data which are transmitted; a data managing portion for managing and storing the multimedia data and the output attribute data which are received; and a data output portion which determines a method of displaying the multimedia data by referring to the output attribute data.

~~a receiving portion for receiving the multimedia data and the output attribute data which are transmitted;~~

~~a data managing portion for managing and storing the multimedia data and the output attribute data which are received; and~~

~~a data output portion which determines a method of displaying the multimedia data by referring to the output attribute data.~~

Please amend the paragraph beginning on line 12 of page 18 as follows:

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According to a twenty-fifth aspect, the receiving terminal device of the twenty-fourth aspect further comprises a data extracting portion for, when the output attribute data is embedded in the multimedia data, extracting from the received multimedia data the output attribute data embedded therein and outputting the output attribute data to the data managing portion, and the data managing

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portion manages the output attribute data extracted by the data extracting portion separately from the corresponding multimedia data.

and the data managing portion manages the output attribute data extracted by the data extracting portion separately from the corresponding multimedia data.

Please amend the paragraph beginning on line 21 of page 18 as follows:

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According to a twenty-sixth aspect, in the receiving terminal device of the twenty-fourth aspect, the data output portion determines whether or not to apply dithering to the multimedia data when displaying the multimedia data on the basis of the data type.

~~the data output portion determines whether or not to apply dithering to the multimedia data when displaying the multimedia data on the basis of the data type.~~

Please amend the paragraph beginning on line 1 of page 19 as follows:

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According to a twenty-seventh aspect, in the receiving terminal device of the twenty-fourth aspect, the data output portion determines whether or not to apply dithering to the multimedia data when displaying the multimedia data on the basis of a comparison between the recommended screen size and the size of a screen in which the multimedia data is actually displayed.

~~the data output portion determines whether or not to apply dithering to the multimedia data when displaying the multimedia data on the basis of a comparison between the recommended screen size and the size of a screen in which the multimedia data is actually displayed.~~

Please amend the paragraph beginning on line 7 of page 19 as follows:

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A twenty-eighth aspect is directed to a receiving terminal device which receives transmitted multimedia data in a JPEG format, comprising: a receiving portion for receiving the transmitted multimedia data; a data analyzing portion for analyzing the contents of the received multimedia data to generate output attribute data about data type (a natural painting or a line drawing) of the multimedia data; a data managing portion for managing and storing the received multimedia data

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and the generated output attribute data; and a data output portion which determines a method of displaying the multimedia data by referring to the output attribute data.

~~a receiving portion for receiving the transmitted multimedia data;~~

~~a data analyzing portion for analyzing the contents of the received multimedia data to generate output attribute data about data type (a natural painting or a line drawing) of the multimedia data;~~

~~a data managing portion for managing and storing the received multimedia data and the generated output attribute data; and~~

~~a data output portion which determines a method of displaying the multimedia data by referring to the output attribute data.~~

Please amend the paragraph beginning on line 9 of page 20 as follows:

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A twenty-ninth aspect is directed to a recording medium on which a program to be executed on a computer device is recorded for realizing an operation environment on the computer device, the device. A program comprising the steps of: in accordance with the twenty-ninth aspect of the present invention may comprise: receiving multimedia data and output attribute data accompanying the multimedia data; managing and storing the multimedia data and the output attribute data received; and outputting the multimedia data together with its attribute information by referring to the output attribute data.

~~receiving multimedia data and output attribute data accompanying the multimedia data;~~
~~managing and storing the multimedia data and the output attribute data received; and~~
~~outputting the multimedia data together with its attribute information by referring to the output attribute data.~~

Please amend the paragraph beginning on line 19 of page 20 as follows:

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A thirtieth aspect is directed to a recording medium on which a program to be executed on a computer device is recorded for realizing an operation environment on the computer device, the device. A program comprising the steps of: in accordance with the thirtieth aspect of the present

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invention may comprise: analyzing the contents of multimedia data in a JPEG format to generate output attribute data comprising information about at least one of data type of the multimedia data (a natural painting or a line drawing) and a recommended screen size suited to display of the multimedia data; and transmitting the multimedia data together with the corresponding output attribute data.

~~analyzing the contents of multimedia data in a JPEG format to generate output attribute data comprising information about at least one of data type of the multimedia data (a natural painting or a line drawing) and a recommended screen size suited to display of the multimedia data; and transmitting the multimedia data together with the corresponding output attribute data.~~

Please amend the paragraph beginning on line 5 of page 21 as follows:

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A thirty-first aspect is directed to a recording medium on which a program to be executed on a computer device is recorded for realizing an operation environment on the computer ~~device, the device.~~ A program comprising the steps of: in accordance with the thirty-first aspect of the present invention may comprise: receiving multimedia data in a JPEG format and output attribute data comprising information about at least one of its data type (a natural painting or a line drawing) and a recommended screen size suited to its display; managing and storing the multimedia data and the output attribute data received; and determining a method of displaying the multimedia data on the basis of the output attribute data.

~~receiving multimedia data in a JPEG format and output attribute data comprising information about at least one of its data type (a natural painting or a line drawing) and a recommended screen size suited to its display;~~

~~managing and storing the multimedia data and the output attribute data received; and determining a method of displaying the multimedia data on the basis of the output attribute data;~~

Please amend the paragraph beginning on line 9 of page 26 as follows:

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Data 121 to data 123 are HTML data (with extensions [.html]). Data 124 and data 125 are JPEG data (with extensions [.jpg]). Data 126 to data 128 are output attribute data generated from the data 121, data 122 and data 125, respectively (with extensions [.atr] in this example). The data 123 and data 124 externally exist. ~~exist on the outside~~. Seen from the data broadcasting device 1, the external data ~~existing outside~~ are multimedia data existing on the Internet, for example, which are, seen from the receiving terminal device 2, multimedia data not received, or not stored in the data storage portion 25.

Please amend the paragraph beginning on line 4 of page 30 as follows:

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Referring to FIG.4 again, the data broadcasting device 1 next decides whether ~~or not~~ to embed the set output attribute data in the target multimedia data (step S408). The decision made in step S408 as to whether ~~or not~~ to embed may be given on the basis of a flag, etc., specified by a user, or may be defined in the system in advance, or may be decided for each piece of multimedia data. The method of making decision can be arbitrarily decided in the system. When the step S408 decides to embed, the data broadcasting device 1 then embeds the output attribute data in the target multimedia data (step S409); when it decides not to embed, the data broadcasting device 1 stores the output attribute data as another file in the data storage portion 11 (step S410). When the output attribute data is stored as a separate file, the output attribute data can be associated with the target multimedia data by giving the file the same name as the target multimedia data and an extension [.atr].

Please amend the paragraph beginning on line 13 of page 46 as follows:

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In this way, when the output attribute data about JPEG data is broadcast independently or ~~being~~ is embedded in the JPEG data, the receiving terminal device 2 can receive the data and present an image display in accordance with the data type. Further, since the output attribute data described herein is set in a region to be arbitrarily referred to in the JPEG data (the application data segment),

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structures displaying JPEG other than that of this embodiment can display the images without problems.

Please amend the paragraph beginning on line 14 of page 47 as follows:

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When displaying an image of JPEG data, the receiving terminal device 2 decides whether or not to apply dithering (step S1301). The decision of step S1301 is made on the basis of whether the display screen of the receiving terminal device 2 has resolution high enough to eliminate the need of dithering, whether the processing load of dithering should be removed, etc. When the step S1301 decides to apply dithering, the receiving terminal device 2 presumes the JPEG data to be a natural painting and sets "1" in the image type region in the application data segment having the marker code "0xFFEF" in the JPEG data (step S1302). On the other hand, when the step S1301 decides not to apply dithering, the receiving terminal device 2 presumes the JPEG data to be a line drawing and sets "2" in the image type region (step S1303).

Please amend the paragraph beginning on line 11 of page 48 as follows:

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As described above, JPEG images can be displayed with high visibility by setting the output attribute data of the JPEG images in the data broadcasting device 1 and referring to the data at the time of displaying them they are displayed in the receiving terminal device 2. Further, the receiving terminal device 2 can change the output attribute data set in the JPEG images to store the JPEG data in the original format with the information added in the data broadcasting device 1 removed. The receiving terminal device 2 can also redistribute the JPEG data in the original format.

Please amend the paragraph beginning on line 2 of page 50 as follows:

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Referring to FIG.14, the receiving terminal device 2 first displays the received image in the screen (step S1401). Whether to apply dithering to the image displayed in the screen in this step S1401 may be decided according to a default process previously defined in the receiving terminal device 2 or may be decided on the basis of the aforementioned output attribute data (which may be generated in either the data broadcasting device 1 or the receiving terminal device 2). Next a user

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judges whether the image is being desirably displayed in the screen (step S1402). Whether the display is desirable can be judged by the user on the basis of whether the gradation in a natural painting is harshly displayed to form stripes, whether lines in a line drawing may have a saw-like appearance, whether the whole image is unclear and illegible, etc. The user indicates the decision to the display device (e.g. the user enters the decision with a remote controller, ~~etc.~~ etc.). When receiving an indication that the display is not preferred from the user, the receiving terminal device 2 examines whether the displayed image has undergone dithering (step S1403). When the image is dither-processed, the receiving terminal device 2 removes the dithering (step S1404); when the image is not dither-processed, it applies dithering to the image (step S1405). The receiving terminal device 2 then displays the image again (step S1406). Thus the user can see a preferably displayed image.

Please amend the paragraph beginning on line 11 of page 53 as follows:

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For the method of providing from the transmitting side to the receiving side the display attribute about JPEG data, i.e. the information as to whether ~~or not~~ to apply dithering on the basis of whether it is a natural painting or line drawing, the method can be applied not only to the data broadcasts described in this embodiment but also to various common data communications. This method is especially effective for receiving terminal devices with lower performance.